The Canadian BSE Case

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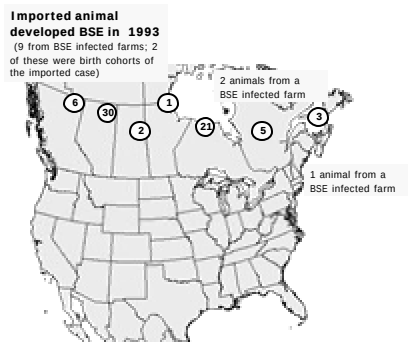
September 18th, 2003

Existing Canadian BSE Prevention Measures

- **Importation of meat and meat products only from countries considered to be free of BSE**
- **Reportable**
- **National BSE surveillance program**
- **Ruminant feeding ban**
- **National Cattle Identification Program**

Canada's First Case of BSE – 1993

- **In 1993, a beef cow imported from the UK in 1987, and under surveillance since 1990, was diagnosed with BSE**
- **The index herd and all UK cattle imports were destroyed**
- **It was subsequently determined that the UK herd which was the source of the cow had other infected animals.**



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Canada's First Indigenous Case of BSE

- **Jan. 31, 2003: 6-8 yr. downer beef cow from a northern Alberta beef calf herd sent for slaughter to provincially licensed meat facility**
- **Head collected and submitted as part of Federal Provincial surveillance program for BSE**
- **Carcass was sent to inedible rendering**

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Canada's First Indigenous Case of BSE

- **May 16, 2003, testing completed and tentative diagnosis of BSE, by Alberta Agriculture**
- **Sample tested at the CFIA's National Centre for Foreign Animal Disease Winnipeg, Manitoba.**
- **Sample sent to Veterinary Laboratory Agency in Weybridge, England, which is the OIE Reference Centre for BSE**
- **May 20th , Weybridge, confirmed BSE**

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Response:
Epidemiological Investigation

- The case itself (Animal Trace Back)
- Its immediate management (Animal Trace Forward)
- Most probable origins (Animal Exposure)

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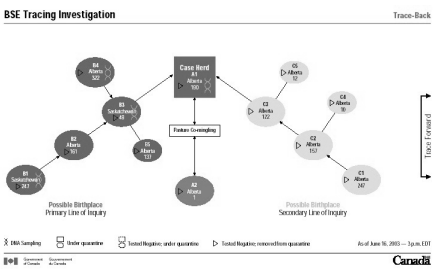

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Animal Trace Forward Investigation

- Also, herd which commingled with index herd
- Movement of cattle from the index herd

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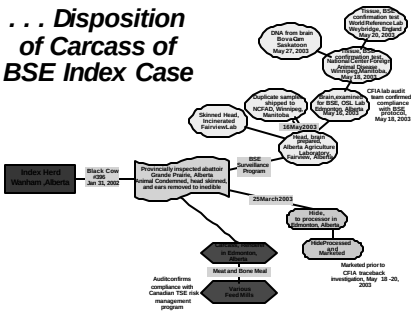
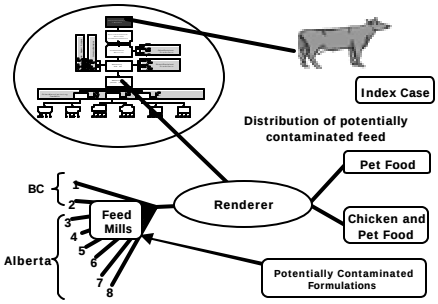
. . . Disposition of Carcass of BSE Index Case





…managing feed chain risk associated with the disposition of offal from the BSE index case

Potential Routes of Exposure for the Index Case

- **The following potential routes of exposure that were considered:**
  - **Maternal transmission**
  - **Contaminated meat and bone meal used in feed products (Early risk factors - Any U.K. imports slaughtered prior to 1993 or other European imports)**
  - **TSEs resident in other animals (CWD, Scrapie)**
  - **Spontaneous**
- **Feed products are considered the most probable route of exposure**

Routes of Exposure: Feed

- **Two potential MBM epidemiological exposure routes identified**
- **A feed concentrate and a high energy feed block. Both incorporated MBM**
- **Investigation of feed mill records and compounding formulae confirmed that MBM incorporation in both feed products was curtailed in 1997 upon implementation of the MBM feed ban**

Source of Contaminated MBM

- **Imported live cattle?**
  - **Limited number of live cattle imported from UK in 1980s**
  - **Some of these animals likely to have been rendered**
    - **Up to 68 (Canadian Risk Assessment)**
      - **8 from farms with at least one case of BSE**
      - **2 from an infected birth cohort**
- **Rendering & feeding practices prior to feed ban would have allowed BSE to cycle through cattle**

Source of Contaminated MBM

- **Imported MBM?**
  - **No MBM imported for livestock feed since 1978 from UK or other countries subsequently affected by BSE**
    - **Other diseases such as FMD precluded such imports**
  - **All MBM imports for livestock feed from**
    - **Australia (GBR Level I) – small amounts**
    - **New Zealand (GBR Level I) – small amounts**
    - **United States of America (GBR Level II) – 50% of requirements**

Conclusions

- **The discovery of bovine spongiform encephalopathy (BSE) in a cow in Canada proves that active surveillance and the BSE diagnostic programs are working**
- **Epidemiological evidence supports the probability that BSE in the case animal was associated with exposure to infective material through the feeding system at some point early in the life of the animal**

International Expert Review

- **Prof. U. Kihm (Switzerland), Prof. W. Hueston (USA) and Dr. D. Heim (Switzerland) convened in Ottawa on 7-9 June 2003. Additional input by phone and e-mail was available from Dr. S. MacDiarmid in New Zealand**
- **The panel found that the risk management measures put in place in Canada achieved the desired outcome**

Summary of Recommendations by the International Team

- **Prohibition of Specified Risk Materials (SRMs) in human food and animal feed**
- **Tighter controls on non-ruminant feed**
- **Strengthen existing cattle identification, tracking and tracing systems**
- **Enhanced disease testing and surveillance**
- **Efforts to improve awareness among producers, veterinarians and the general public**

Specified Risk Materials Ban

- **The immediate objective of this policy is to establish a requirement that SRMs be removed at the time of slaughter, and removed from human food and use**
- **The new policy defines specified risk materials (SRMs) and requires their removal at slaughter**
  - **SRMs – include the brain, spinal cord, dorsal root ganglia, eyes, tonsils, skull, and distal ileum**

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Summary of Other Policy Options Being Considered

- **Other measures will follow under the five key areas:**
  - **Restrictions on animal feed and processing to protect human and human health;**
  - **Expanded surveillance;**
  - **Expanded food safety plans;**
  - **Comprehensive tracking and tracing;**
  - **National standards and approaches.**

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Websites and Online Resources

- **Canadian Food Inspection Agency (CFIA) website: www.inspection.gc.ca**
  - **BSE investigation main page: http://www.inspection.gc.ca/english/anima/heasan/disemala/bseesb/bseesbindexe.shtml**
  - **Narrative background to Canada's assessment of and response to the BSE occurrence in Alberta: http://www.inspection.gc.ca/english/anima/heasan/disemala/bseesb/evale.shtml**
  - **International report on the actions taken by Canada in response to the confirmation of an indigenous case of BSE: http://www.inspection.gc.ca/english/anima/heasan/disemala/bseesb/internate.shtml**
- **Health Canada website: www.hc-sc.gc.ca**

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